

BID FORM

MISSOURI DEPARTMENT OF TRANSPORTATION

GENERAL SERVICES

830 MoDOT DRIVE – P.O. BOX 270

JEFFERSON CITY, MO 65102

REQUEST NO.	2-110214AS1
DATE	January 27, 2011
PAGE NO.	1
NO. OF PAGES	43

SEALED BIDS, SUBJECT TO THE ATTACHED CONDITIONS WILL
BE RECEIVED AT THIS OFFICE UNTIL**10:00 A.M, CST, February 14, 2011**AND THEN PUBLICLY OPENED AND READ FOR FURNISHING
THE FOLLOWING SUPPLIES OR SERVICES.**BID TO BE BASED F.O.B. MISSOURI DEPARTMENT OF
TRANSPORTATION**

Submit net bid as cash discount stipulations will not be considered

Various District Locations

BUYER: Angela Sutton**BUYER TELEPHONE:** (573) 526-7929**SUPPLIES OR SERVICES**

This document constitutes a Request for Bid (RFB) and solicits competitive sealed bids from qualified bidders to provide **Traffic Signal Parts**. The issuance of this RFB in no way constitutes a commitment to award a contract or to pay any costs incurred in preparation of a response to this request.

*****NOTE:** It is the responsibility of the Bidder to access MoDOT's website in order to obtain any and all addenda(s) issued during the course of this RFB process.

All questions regarding this RFB shall be submitted to the RFB coordinator/contact.

Note to Respondent: The bidder must use the firm name under which he/she is registered to do business in the State of Missouri. The bidder must ensure that his/her firm name is registered with the office of the Secretary of State. Failure to use the correct firm name on all bid documents will result in delaying the contract award.

(SEE ATTACHED FOR CONDITIONS AND INSTRUCTIONS)

In compliance with the above invitation for bids, and subject to all conditions thereof, the undersigned bidder agrees to furnish and deliver any or all the items on which prices were bid within the timeframe specified herein after receipt of formal purchase order.

Date: _____**Telephone No.:** _____**Fax No.:** _____**Federal I.D. No.** _____**Email Address:** _____**Firm Name:** _____**Address:** _____**By (Signature):** _____**Type/Print Name** _____**Title:** _____

**MISSOURI DEPARTMENT OF TRANSPORTATION
JEFFERSON CITY, MISSOURI**

Traffic Signal Parts

Request No. 2-110214AS1

1. Introduction

- 1.1 This solicitation seeks bids from qualified organizations to provide Traffic Signal Parts throughout the state of Missouri with an effective contract period of March 1, 2011 through February 28, 2012 to the Missouri Highways and Transportation Commission (MHTC) and Missouri Department of Transportation (MoDOT).
- 1.2 In the event the contractor requests a price increase during the contract period, the contractor must provide a written request and documentation justifying the need for a price increase, and the amount of such price increase. MoDOT will review the contractor's written request and documentation for a price increase, and decide if a price increase is to be granted at that particular time. The contractor shall understand and agree that MoDOT's decision shall be final and without recourse.
 - a. No price increase shall be granted during the first 6 months of the original contract period.
 - b. In the event a price increase is granted due to an approved escalation, the renewal percentage shall be based upon the current contract value.

2. Specification

- 2.1 All equipment shall conform to the latest revision of Section 1061, 1062 and 1092 of the Missouri Standard Specifications for Highway Construction and Section 902 of the Missouri Standard Plans for Highway Construction except 1092.1 through 1092.1.7. Please refer to Appendix A.
- 2.2 Unless otherwise specified herein, only items on the latest revision of the MoDOT [Approved Products List for Traffic Signals and Highway Lighting Equipment](http://www.modot.mo.gov/business/contractor_resources/traffic.htm) will be accepted. The bidder must complete and return the equipment list(s) specified herein with the bid. Please refer to Appendix B.

http://www.modot.mo.gov/business/contractor_resources/traffic.htm

- 2.3 If a category is not on the Approved Products List, specifications shall be submitted to compare with MoDOT specifications.
- 2.4 Only Programmable View LED Signal Modules on the following list will be accepted.

**Approved Programmable View
LED Signal Modules**

ManufacturerModel

Dialight	P463R33003 (Red Ball)
Dialight	P463Y33003 (Yellow Ball)
Dialight	P463G33003 (Green Ball)
GELcore	DR3-RCFB-01A (Red Ball)
GELcore	DR3-YCFB-01A (Yellow Ball)
GELcore	DR3-GCFB-01A (Green Ball)

3. Quantities

- 3.1 The quantities identified in the Pricing Pages are estimates only. MoDOT may increase or decrease quantities as needed. MoDOT will issue purchase orders for traffic lighting equipment throughout the duration of the contract on an as needed basis.

4. Delivery

- 4.1 All equipment must be received at the specified destination within 45-60 calendar days after the issue date of the purchase order unless otherwise specified on the purchase order.
- 4.2 Failure to deliver equipment in the specified delivery time will give the Commission, at its discretion, the right to cancel the remainder of the contract without being considered in breach of contract and without any additional payment to the bidder.

**MISSOURI DEPARTMENT OF TRANSPORTATION
JEFFERSON CITY, MISSOURI**

Traffic Signal Parts

Request No. 2-110214AS1

5. Award

- 5.1 Award of this bid will be made on a “Group-By-Group” basis after reviewing all options, and by using the “lowest and best” principle of award, providing the prices are acceptable to the Commission.
- 5.2 Bidders must submit pricing for each item in each group in order to be considered responsive. Pricing is also required for all items listed with zero quantities.
- 5.3 Notification of award will be at the time the tabulation is posted on the Internet. It is the sole responsibility for all bidders to check the website for bid results.
- 5.4 In the event of tie low bids, the Commission reserves the right to establish the method to be used in determining the award.

6. Bid Submission

- 6.1 Each bid must be mailed or hand delivered in a sealed package to the RFB Coordinator at the General Services Procurement Office. All questions regarding the RFB shall be submitted to the RFB Coordinator. All bids must be received at the General Services Procurement Office located at 830 MoDOT Drive, no later than **10:00 a.m., CST, February 14, 2011.**

RFB Coordinator:

Ms. Angela Sutton, Procurement Agent
Missouri Department of Transportation
830 MoDOT Drive; Jefferson City, MO 65109
P.O. Box 270; Jefferson City, MO 65102
PHONE: (573) 526-7929; FAX:(573) 526-1218
EMAIL: Angela.Sutton@modot.mo.gov (Questions Only)

- 6.2 All bids must be received in a sealed package clearly marked “**2-110210AS1-Traffic Signal Parts**”
- 6.3 **MHTC reserves the right to reject any and all bids for any reason whatsoever.**
- 6.4 Bids will be reviewed to determine if the bid complies with the mandatory requirements, and to determine the lowest and responsive bid.
- 6.5 **Cost Determination** – The low bid shall be determined by reviewing the line items in each group to ensure pricing was submitted on all items.
- 6.6 **Open Competition/Request for Bid Document**
 - a. It shall be the bidder's responsibility to ask questions, request changes or clarification, or otherwise advise MoDOT if any language, specifications or requirements of an RFB appear to be ambiguous, contradictory, and/or arbitrary, or appear to inadvertently restrict or limit the requirements stated in the RFB to a single source. Any and all communication from bidders regarding specifications, requirements, competitive bid process, etc., must be directed to the buyer from the MoDOT, unless the RFB specifically refers the bidder to another contact. Such communication should be received at least five (5) working days prior to the official bid opening date.

**MISSOURI DEPARTMENT OF TRANSPORTATION
JEFFERSON CITY, MISSOURI
Traffic Signal Parts**

Request No. 2-110214AS1

SIGNALS AND HARDWARE

The following list shall be completed and returned with the bid. Equipment shall be agreed to and approved prior to the contract award. All delivered equipment shall be the products listed below.

<u>Item</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
Signal Heads - Polycarbonate		
Signal heads shall be assembled with LEDs and visors and furnished with backplates.		
Backplate		
LED Brand/Model No. (Green Ball)		
LED Brand/Model No. (Red Ball)		
LED Brand/Model No. (Yellow Ball)		
LED Brand/Model No. (Green Arrow)		
LED Brand/Model No. (Yellow Arrow)		
Pedestrian Head - 1-Section		
Pedestrian LED Signal		
Pedestrian LED Signal (Replacement)		
Pedestrian Push-Button		
Hardware		
3/8" Strandvise – Reliable 5202		
1/4" Strandvise – Reliable 5200		
3/4" Stainless Steel Banding Material (Type 201 (US-8122-06) or Type 316 (US-8124-06)		
4" Spun Aluminum Pole, Schedule 80		
Aluminum Base Assy., Heat Treated W/ Plastic Door		
Aluminum Base Assy. W/ Alum. Door		
Aluminum Base Assy. W/ Plastic Door		
Pole & Base Collar Assembly (Wind Collar)		

**MISSOURI DEPARTMENT OF TRANSPORTATION
JEFFERSON CITY, MISSOURI**

**Traffic Signal Parts
CIRCULAR LED SIGNAL INDICATIONS**

Request No. 2-110214AS1

The following list shall be completed and returned with the bid. Equipment shall be agreed to and approved prior to the contract award. All delivered equipment shall be the products listed below.

<u>Item</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
Circular LED Indication (Green)	_____	_____
Circular LED Indication (Red)	_____	_____
Circular LED Indication (Yellow)	_____	_____

ARROW LED SIGNAL INDICATIONS

The following list shall be completed and returned with the bid. Equipment shall be agreed to and approved prior to the contract award. All delivered equipment shall be the products listed below.

<u>Item</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
Arrow LED Indication(Green Arrow)	_____	_____
Arrow LED Indication(Yellow Arrow)	_____	_____

PROGRAMMABLE VIEW LEDs

The following list shall be completed and returned with the bid. Equipment shall be agreed to and approved prior to the contract award. All delivered equipment shall be the products listed below.

<u>Item</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
Programmable View LED (Green Ball)	_____	_____
Programmable View LED (Red Ball)	_____	_____
Programmable View LED (Amber Ball)	_____	_____

CONTROLLER ACCESSORIES

The following list shall be completed and returned with the bid. Equipment shall be agreed to and approved prior to the contract award. All delivered equipment shall be the products listed below.

<u>Item</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
NEMA Load Switches	_____	_____
NEMA Flashers	_____	_____
NEMA Flash Transfer Relays	_____	_____
NEMA Conflict Monitor	_____	_____
2-Channel Card Rack Detectors, Time Delay	_____	_____

**MISSOURI DEPARTMENT OF TRANSPORTATION
JEFFERSON CITY, MISSOURI**

**Traffic Signal Parts
WIRE AND CABLE**

Request No. 2-110214AS1

The following list shall be completed and returned with the bid. Equipment shall be agreed to and approved prior to the contract award. All delivered equipment shall be the products listed below.

<u>Item</u>	<u>Manufacturer</u>	<u>IMSA Specification Number</u>
Loop Lead-In Wire, 2-Conductor, 14 gauge	_____	_____
Loop Wire - 14 gauge XHHW in-duct	_____	_____
1/4" Messenger Wire Cable Steel (Class A)	_____	_____
3/8" Messenger Wire Cable Steel (Class A)	_____	_____
10-Conductor Signal Wire	_____	_____
7-Conductor Signal Wire – 12 AWG	_____	_____
5-Conductor Signal Wire – 12 AWG	_____	_____
3-Conductor Signal Wire – 12 AWG	_____	_____
7-Conductor Signal Wire – 16 AWG IMSA 19-1	_____	_____
7-Conductor Signal Wire – 16 AWG IMSA 20-1	_____	_____

PULL BOXES

The following list shall be completed and returned with the bid. Equipment shall be agreed to and approved prior to the contract award. All delivered equipment shall be the products listed below.

<u>Item</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
Preformed Pull Box - Class 1	_____	_____
Preformed Pull Box - Class 2	_____	_____
Preformed Pull Box - Class 3	_____	_____
Preformed Pull Box – Class 5	_____	_____

**MISSOURI DEPARTMENT OF TRANSPORTATION
JEFFERSON CITY, MISSOURI**

Traffic Signal Parts

Request No. 2-110214AS1

GROUP 1 PRICING PAGE

The bidder shall provide a firm, fixed price in the table below for providing the deliverables/services in accordance with the provisions and requirements specified herein. All costs associated with providing the required deliverables/services shall be included in the prices stated below. **PRICING MUST BE SUBMITTED ON ALL ITEMS.**

Quantity	Unit	Description of Parts - Signals and Hardware	UNIT PRICE	AMOUNT
<i>All five section signal heads shall be assembled with Pelco hardware. Signal heads shall be assembled with extended view LEDs and visors and furnished with backplates.</i>				
134	ea	3-Section Polycarbonate Signal Heads (R-Y-G)		
30	ea	3-Section Polycarbonate Signal Heads(R-Y-S)		
16	ea	3-Section Polycarbonate Signal Heads (R-YL-L)		
68	ea	4-Section Polycarbonate Signal Heads (R-Y-S-L)		
0	ea	4-Section Polycarbonate Signal Heads (R-Y-S-Rt)		
5	ea	5-Section Polycarbonate Signal Heads - Vertical - Side or Top-Mount		
3	ea	5-Section Polycarbonate Signal Heads - 1-2-2 - Overhead Mount with		
		Pelco Hardware (SP-1031-MO)		
10	ea	Pedestrian Head - 1-Section with Pedestrian LED Signal		
98	ea	Pedestrian LED Signal (Replacement)		
174	ea	Pedestrian Push-Button		
16	ea	12-Circuit Disconnect Hanger Assembly (#SE-3073)		
30	ea	Break-A-Way Tether Assembly, tri stud (#SE-5050)		
542	ea	Serrated Ell (90 degree elbow) (#SE-0457)		
0	ea	Tri-Stud Balancer Assembly, 3/4" width (#SE-5034)		
0	ea	Tri-Stud Wire Hanger Assembly (#SE-5089)		
92	ea	Vertical Slip Tee (#SE-0458)		
70	ea	Horizontal Slip Tee (#SE-0474)		
25	ea	Slip Fitter, for 3 & 4 way signal (#SE-3029)		
10	ea	Span Wire Clamp, 3/4" width (#SE-0321)		
10	ea	Span Wire Clamps, Alum., 3/4" w/ J-bolts (#SE-0321)		
16	ea	Type 316 Stainless Steel Buckles (#US-8124-56) - 100 package quantity		
9	box	1-Bolt Flared Leg Bracket (.075" thick) (#US-8120-21) - 50 per box		
120	ea	3/8" Strandvise - Reliable 5202		
150	ea	1/4" Strandvise - Reliable 5200		
42	box	3/4" Stainless Steel Banding Material (Type 201 (US-8122-06) or Type 316 (US-8124-06)) - 100' box		
28	ea	Spun Aluminum Pole, Toe, SCH 80, 15' length (#PB-5102)		
57	ea	Alum. Base Assy., Heat Treated w/ plastic door (#PB-5336)		
20	ea	Alum. Base Assy. w/ steel coupling & aluminum door		
17	ea	Alum. Base Assy. w/ steel coupling & plastic door		

Group 1 Total _____

**MISSOURI DEPARTMENT OF TRANSPORTATION
JEFFERSON CITY, MISSOURI
Traffic Signal Parts**

Request No. 2-110214AS1

GROUPS 2, 3, 4 and 5 PRICING PAGE

The bidder shall provide a firm, fixed price in the table below for providing the deliverables/services in accordance with the provisions and requirements specified herein. All costs associated with providing the required deliverables/services shall be included in the prices stated below. **PRICING MUST BE SUBMITTED ON ALL ITEMS.**

GROUP 2

Quantity	Unit	Description of Parts - Circular Signal Modules	UNIT PRICE	AMOUNT
210	ea	Circular Signal Modules - Green Ball		
55	ea	Circular Signal Modules - Yellow Ball		
110	ea	Circular Signal Modules - Red Ball		

Group 2 Total _____

GROUP 3

Quantity	Unit	Description of Parts - Signal Arrow LED Indications	UNIT PRICE	AMOUNT
34	ea	Signal Arrow LED Indications - Green Arrow		
108	ea	Signal Arrow LED Indications -Yellow Arrow		

Group 3 Total _____

GROUP 4

Quantity	Unit	Description of Parts - Programmable View LEDs	UNIT PRICE	AMOUNT
92	ea	Programmable View LED - Green Ball		
34	ea	Programmable View LED - Yellow Ball		
90	ea	Programmable View LED - Red Ball		

Group 4 Total _____

GROUP 5

Quantity	Unit	Description of Parts - Controller Accessories	UNIT PRICE	AMOUNT
25	ea	NEMA Load Switches		
61	ea	NEMA Flashers		
74	ea	NEMA Flash Transfer Relays		
65	ea	NEMA Conflict Monitor		
80	ea	2-Channel Card Rack Detectors, Time Delay		

Group 5 Total _____

**MISSOURI DEPARTMENT OF TRANSPORTATION
JEFFERSON CITY, MISSOURI
Traffic Signal Parts**

Request No. 2-110214AS1

GROUPS 6 and 7 PRICING PAGE

The bidder shall provide a firm, fixed price in the table below for providing the deliverables/services in accordance with the provisions and requirements specified herein. All costs associated with providing the required deliverables/services shall be included in the prices stated below. **PRICING MUST BE SUBMITTED ON ALL ITEMS.**

GROUP 6

Quantity	Unit	Description of Parts - Wire and Cable	UNIT PRICE	AMOUNT
3	spool	Loop Lead-In Wire, 2-Conductor - 14 gauge - 2500' spool		
0	spool	Loop Lead-In Wire, 2-Conductor - 14 gauge - 1000' spool		
3	spool	Loop Wire - 14 gauge XHHW in-duct - 2500' spool		
24	coil	1/4" Messenger Wire Cable Steel (Class A) - 250' Coil		
		(Sec. 902.8 & Std. Dwg. 902.70)		
16	coil	3/8" Messenger Wire Cable Steel (Class A) - 250' Coil		
0	spool	7-Conductor signal wire - 2500' wooden spool - 12 AWG (IMSA 19-1)		
0	spool	7-Conductor signal wire - 500' wooden spool - 12 AWG (IMSA 19-1)		
2	spool	5-Conductor signal wire - 2500' wooden spool - 12 AWG (IMSA 19-1)		
1	spool	3-Conductor wire - 2500' wooden spool - 12 AWG (IMSA 19-1)		
4	spool	7-Conductor signal wire - 2500' wooden spool - 16 AWG (IMSA 19-1)		
3	spool	7-Conductor signal wire - 500' wooden spool - 16 AWG (IMSA 19-1)		
1	spool	7-Conductor signal wire - 2500' wooden spool - 16 AWG (IMSA 20-1)		
1	spool	7-Conductor signal wire - 500' wooden spool - 16 AWG (IMSA 20-1)		

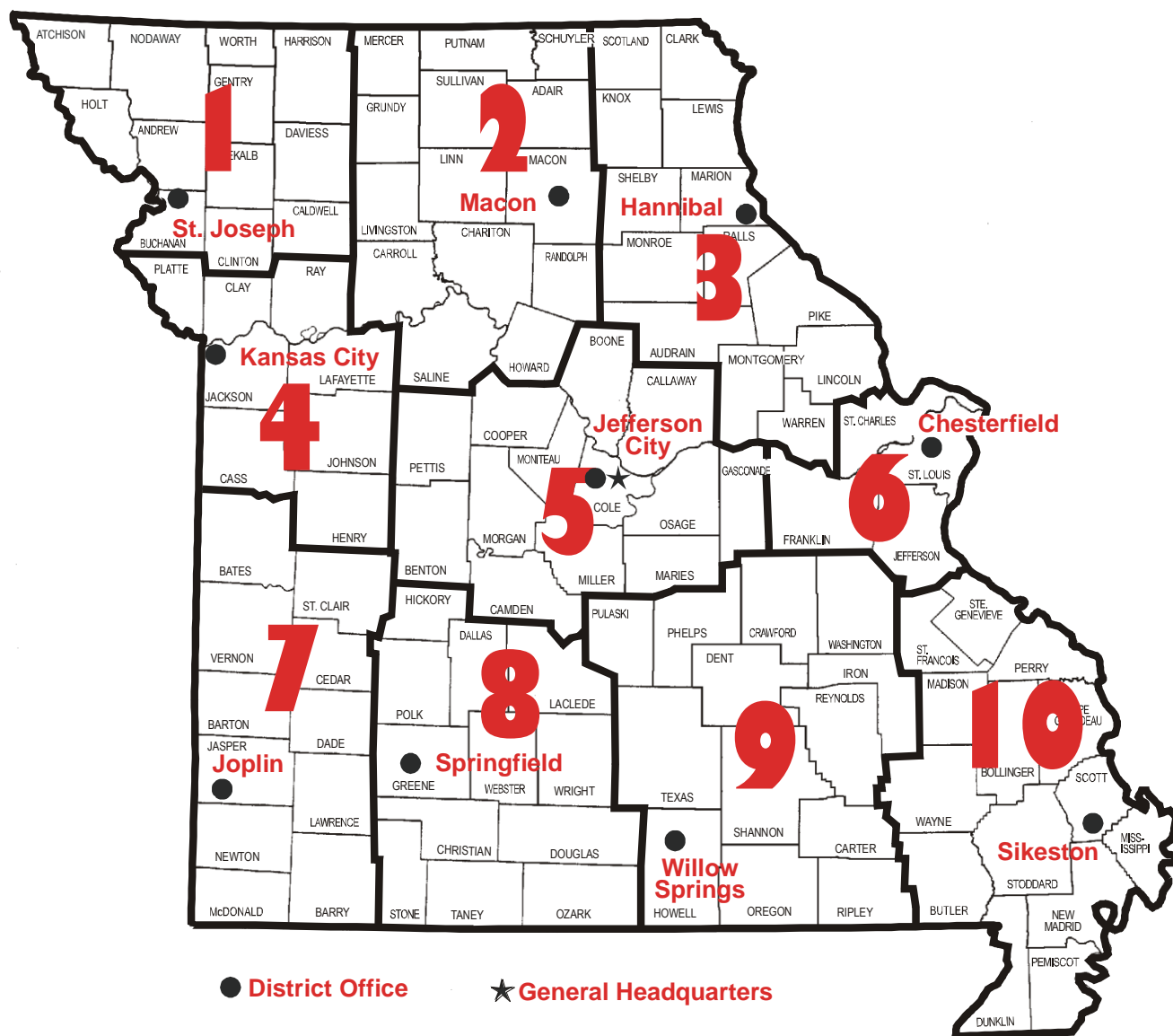
Group 6 Total _____

GROUP 7

Quantity	Unit	Description of Parts - Pull Boxes	UNIT PRICE	AMOUNT
22	ea	Preformed Pull Box - Class 1 - Cover Embossed with "STATE SIGNALS"		
22	ea	Preformed Pull Box - Class 1 - Cover Embossed with "STATE LIGHTING"		
0	ea	Preformed Pull Box - Class 2 - Cover Embossed with "STATE SIGNALS"		
2	ea	Preformed Pull Box - Class 2 - Cover Embossed with "STATE LIGHTING"		
0	ea	Preformed Pull Box - Class 3 - Cover Embossed with "STATE SIGNALS"		
0	ea	Preformed Pull Box - Class 3 - Cover Embossed with "STATE LIGHTING"		
0	ea	Preformed Pull Box - Class 5 - Cover Embossed with "STATE SIGNALS"		
0	ea	Preformed Pull Box - Class 5 - Cover Embossed with "STATE LIGHTING"		

Group 7 Total _____

Missouri Department of Transportation District Outline Map



COUNTY	DIST.	COUNTY	DIST.	COUNTY	DIST.	COUNTY	DIST.	COUNTY	DIST.	COUNTY	DIST.
Adair.....	2	Cedar.....	7	Greene.....	8	Linn.....	2	Ozark.....	8	St. Louis.....	6
Andrew.....	1	Chariton.....	2	Grundy.....	2	Livingston.....	2	Pemiscot.....	10	Saline.....	2
Atchison.....	1	Christian.....	8	Harrison.....	1	McDonald.....	7	Perry.....	10	Schuyler.....	2
Audrain.....	3	Clark.....	3	Henry.....	4	Macon.....	2	Pettis.....	5	Scotland.....	3
Barry.....	7	Clay.....	4	Hickory.....	8	Madison.....	10	Phelps.....	9	Scott.....	10
Barton.....	7	Clinton.....	1	Holt.....	1	Maries.....	5	Pike.....	3	Shannon.....	9
Bates.....	7	Cole.....	5	Howard.....	2	Marion.....	3	Platte.....	4	Shelby.....	3
Benton.....	5	Cooper.....	5	Howell.....	9	Mercer.....	2	Polk.....	8	Stoddard.....	10
Bollinger.....	10	Crawford.....	9	Iron.....	9	Miller.....	5	Pulaski.....	9	Stone.....	8
Boone.....	5	Dade.....	7	Jackson.....	4	Mississippi.....	10	Putnam.....	2	Sullivan.....	2
Buchanan.....	1	Dallas.....	8	Jasper.....	7	Moniteau.....	5	Ralls.....	3	Taney.....	8
Butler.....	10	Daviess.....	1	Jefferson.....	6	Monroe.....	3	Randolph.....	2	Texas.....	9
Caldwell.....	1	Dekalb.....	1	Johnson.....	4	Montgomery.....	3	Ray.....	4	Vernon.....	7
Callaway.....	5	Dent.....	9	Knox.....	3	Morgan.....	5	Reynolds.....	9	Warren.....	3
Camden.....	5	Douglas.....	8	Laclede.....	8	New Madrid.....	10	Ripley.....	9	Washington.....	9
Cape Girardeau.....	10	Dunklin.....	10	Lafayette.....	4	Newton.....	7	St. Charles.....	6	Wayne.....	10
Carroll.....	2	Franklin.....	6	Lawrence.....	7	Nodaway.....	1	St. Clair.....	7	Webster.....	8
Carter.....	9	Gasconade.....	5	Lewis.....	3	Oregon.....	9	St. Francois.....	10	Worth.....	1
Cass.....	4	Gentry.....	1	Lincoln.....	3	Osage.....	5	Ste. Genevieve.....	10	Wright.....	8

PREFERENCE IN PURCHASING PRODUCTS

DATE: _____

The bidders attention is directed to Section 34.076 RSMo 2000 which gives preference to Missouri corporations, firms, and individuals when letting contracts or purchasing products.

Bids/Quotations received will be evaluated on the basis of this legislation.

All vendors submitting a bid/quotation must furnish ALL information requested below.

FOR CORPORATIONS:

State in which incorporated: _____

FOR OTHERS:

State of domicile: _____

FOR ALL VENDORS:

List address of Missouri offices or places of business:

THIS SECTION MUST BE COMPLETED AND SIGNED:

FIRM NAME: _____

ADDRESS: _____

CITY: _____ **STATE:** _____ **ZIP:** _____

BY (signature required): _____

Federal Tax I.D. #: _____ **if no Federal Tax I.D. # - list Social Security #:** _____

NOTE: For bid/quotation to be considered, the "Preference in Purchasing Products" form must be on file in the General Services (Procurement) Division and must be dated in the current calendar year.

MISSOURI SERVICE-DISABLED VETERAN BUSINESS PREFERENCE

By virtue of statutory authority, RSMo 34.074, a preference will be given all contracts for the performance of any job or service to service-disabled veteran business either doing business as Missouri firms, corporations, or individuals; or which maintain Missouri offices or places of business, when the quality of performance promised is equal or better and the price quoted is the same or less or whenever competing bids, in their entirety, are comparable.

Definitions:

Service-Disabled Veteran is defined as any individual who is disabled as certified by the appropriate federal agency responsible for the administration of veterans' affairs.

Service-Disabled Veteran Business is defined as a business concern:

- a. Not less than fifty-one (51) percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than fifty-one (51) percent of the stock of which is owned by one or more service-disabled veterans; and
- b. The management and daily business operations of which are controlled by one or more service-disabled veterans.

If an offeror meets the definitions of a service-disabled veteran and a service-disabled veteran business as defined in 34.074 RSMo and is either doing business as a Missouri firm, corporation, or individual; or maintains a Missouri office or place of business, the offeror **must** provide the following with the proposal in order to receive the Missouri service-disabled veteran business preference over a non-Missouri service-disabled veteran business when the quality of performance promised is equal or better and the price quoted is the same or less or whenever competing proposals, in their entirety, are comparable:

- a. A copy of a letter from the Department of Veterans Affairs (VA), or a copy of the offeror's discharge paper (DD Form 214, Certificate of Release or Discharge from Active Duty) from the branch of service the offeror was in, stating that the offeror has a service-connected disability rating ranging from 0 to 100% disability; and
- b. A completed copy of this exhibit

(NOTE: For ease of evaluation, please attach copy of the above-referenced letter from the VA or a copy of the offeror's discharge paper to this Exhibit.)

By signing below, I certify that I meet the definitions of a service-disabled veteran and a service-disabled veteran business as defined in 34.074 RSMo and that I am either doing business as a Missouri firm, corporation, or individual; or maintain Missouri offices or places of business at the location(s) listed below.

Veteran Information

Business Information

Service-Disabled Veteran's Name, (Please Print)

Service-Disabled Veteran Business Name

Service-Disabled Veteran's Signature

Missouri Address of Service-Disabled Veteran Business

MISSOURI DOMESTIC PRODUCTS PROCUREMENT ACT

The bidder's attention is directed to the Missouri Domestic Products Procurement Act, Sections 34.350 to 34.359, RsMO, which requires all manufactured goods or commodities used or supplied in the performance of this contract or any subcontract to be manufactured or produced in the United States.

Section 34.355, RsMO, requires the vendor or contractor to certify his compliance with Section 34.353 and, if applicable, Section 34.359, RsMO, at the time of bidding **and** prior to payment. Failure to comply with Section 34.353, RsMO, during the performance of the contract **and** to provide certification of compliance prior to payment will result in nonpayment for those goods or commodities.

Section 34.353.2, RsMO, specifies that it does not apply where the total contract is less than Twenty-Five Thousand Dollars (\$25,000.00). If your total bid is Twenty-Five Thousand Dollars (\$25,000.00) or more, you **must** complete this form as directed below.

Failure to complete and return this document with this bid will cause the State to presume the manufactured goods or products listed in the bid are not manufactured or produced in the United States, and the bid will be evaluated on that basis. Please read the certification appearing below on this form.

[] If all the goods or products specified in the attached bid which the bidder proposes to supply to the State shall be manufactured or produced in the "United States" as defined in Section 34.350, RsMO, check the box at left.

[] If only one item of any particular goods or products specified in the attached bid is manufactured or produced in the "United States" as defined in Section 34.350, RsMO, check the box at left and list the items (or item number) here:

[] If any or all of the goods or products specified in the attached bid which the bidder proposes to supply to the State are **not** manufactured or produced in the "United States" as defined in Section 34.350, RsMO, then: (a) check the box at left; (b) list below, by item (or item number), the country other than the United States where each good or product is manufactured or produced; and (c) check the boxes to the left of the paragraphs below if applicable and list the corresponding items (or item numbers) in the spaces provided.

Item (or item number)	Location Where Item Manufactured or Produced

(attach an additional sheet if necessary)

[] The following specified goods or products cannot be manufactured or produced in the United States in sufficient quantities or in time to meet the contract specifications. Items (or item numbers): _____

[] The following specified goods or products must be treated as manufactured or produced in the United States, in accordance with an existing treaty, law, agreement, or regulation of the United States, including a treaty between the United States and any foreign country regarding export-import restrictions or international trade. Items (or item numbers): _____

CERTIFICATION

By submitting this document, completed as directed above, with a bid, the bidder certifies under penalty of making false declaration (Section 575.060, RsMO) that the information contained in this document is true, correct and complete, and may be relied upon by the State in determining the bidders qualifications under and in compliance with the Missouri Domestic Products Procurement Act.

The bidder's failure to complete and return this document with the bid as directed above will cause the State to presume the manufactured goods or products listed in the bid are not manufactured or produced in the United States, and the bid will be evaluated on that basis pursuant to Section 34.353.3(2), RsMO.

**MISSOURI DEPARTMENT OF TRANSPORTATION
JEFFERSON CITY, MISSOURI
Traffic Signal Parts**

Request No. 2-110214AS1

COOPERATIVE AGREEMENT NOTICE

The Department is interested in assisting Missouri governmental entities, etc. in purchasing equipment, various materials and supplies that meet the Highway and Transportation Department specifications.

Each bidder is asked to indicate below whether they would be willing to offer **Traffic Signal Parts** listed in the attached "Request for Bid" for sale to these local political entities at the same bid price offered to this Department.

It is understood the Department will not issue purchase orders, accept delivery nor make payment for these items ordered by any of these agencies. It is further understood the price is based on the **Traffic Signal Parts** meeting the Department specifications. Any added options, deletions, or extra freight costs would be negotiated between the local agency and the successful vendor.

Indicate below whether your company is willing to offer such cooperative purchasing for Missouri counties, cities or other political entities.

YES _____

NO _____

If the price varies throughout the state on Department bids because of different delivery destinations, please indicate the price f.o.b. your location that would be offered as described.

F.O.B. Location _____

Indicate the deadline date that orders will be accepted. _____

COMPANY NAME _____

ADDRESS _____

PHONE NUMBER _____

SIGNATURE _____

TITLE _____

DATE _____

(Each vendor should complete the appropriate sections of their form and submit with their bid.)

Missouri Highways and Transportation Commission
Standard Bid/Proposal Provisions, General Terms and Conditions and Special Terms and Conditions

STANDARD SOLICITATION PROVISIONS

- a. The Missouri Department of Transportation (MoDOT) reserves the right to reject any or all bids/quotes/proposals, and to accept or reject any items thereon, and to waive technicalities. In case of error in the extension of prices in the bid/quote/proposal, unit prices will govern.
- b. All bids/quotes/proposals must be signed with the firm name and by a responsible officer or employee. Obligations assumed by such signature must be fulfilled.
- c. By virtue of statutory authority, a preference will be given to materials, products, supplies, provisions and all other articles produced, manufactured, made or grown, within the State of Missouri.
- d. Time of delivery is a part of the consideration and, if not otherwise stated in the solicitation documents, must be stated in definite terms by the Bidder/Offeror and must be adhered to. If time varies on different items, the Bidder/Offeror shall so state.
- e. If providing bids/quotes/proposals for commodities, the Bidder/Offeror will state brand or make on each item. If bidding or proposing other than the make, model or brand specified, the manufacturer's name, model number or catalog number must be given.
- f. **For bids/proposals of \$25,000 or more**, no bids/proposals by telephone, telegram or telefax will be accepted.
- g. The date specified for the returning of bids/quotes/proposals is a firm deadline and all bids/quotes/proposals must be received at the designated office by that time. The Department does not recognize the U.S. Mail, Railway Express Agency, Air Express, or any other organization, as its agent for purposes of accepting proposals. All proposals arriving at the designated office after the deadline specified will be rejected.

GENERAL TERMS AND CONDITIONS

General Performance

- a. Bidders are encouraged to obtain minority business enterprise (MBE) and women business enterprise (WBE) participation in this work through the use of subcontractors, suppliers, joint ventures, or other arrangements that afford meaningful participation for M/WBEs. Bidders are encouraged to obtain 10% MBE and 5% WBE participation.
- b. This work is to be performed under the general supervision and direction of the Missouri Department of Transportation (MoDOT) and, if awarded any portion of the work, the Contractor agrees to furnish at his own expense all labor and equipment required to complete the work, it being expressly understood that this solicitation is for completed work based upon the price(s) specified and is not a solicitation for rental of equipment or employment of labor by MoDOT, and MoDOT is to have no direction or control over the employees used by the Contractor in performance of the work.

Deliveries

- a. Unless otherwise specified on the solicitation documents or purchase order, suppliers shall give at least 24 hours advance notice of each delivery. Delivery will only be received between the hours of 8:00 a.m. to 3:00 p.m., Monday through Friday. Material arriving after 3:00 p.m. will not be unloaded until the following workday. No material will be received on Saturday, Sunday or state holidays.
- b. If the prices bid herein include the delivery cost of the material, the Contractor agrees to pay all transportation charges on the material as FOB - Destination. Freight costs must be included in the unit price bid and not listed as a separate line item.
- c. Any demurrage is to be paid by the Contractor direct to the railroad or carrier.

Nondiscrimination

- a. The Contractor shall comply with the Regulations relative to nondiscrimination in federally-assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
- b. All solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of the Contractor's obligations under this contract and the Regulations, will be relative to nondiscrimination on the grounds of race, color, or national origin.
 - 1) Sanctions for Noncompliance: In the event of the Contractor's noncompliance with the nondiscrimination provisions of this contract, MoDOT shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
 - i. withholding of payments to the Contractor under the contract until the Contractor complies, and/or,
 - ii. cancellation, termination or suspension of the contract, in whole or in part.

Contract/Purchase Order

- a. By submitting a bid/quote/proposal, the Bidder/Offeror agrees to furnish any and all equipment, supplies and/or services specified in the solicitation documents, at the prices quoted, pursuant to all requirements and specifications contained therein.
- b. A binding contract shall consist of: (1) the solicitation documents, amendments thereto, and/or Best and Final Offer (BAFO) request(s) with any changes/additions, (2) the Contractor's proposal and/or submitted pricing, and (3) the MHTC's acceptance of the proposal and/or bid by purchase order or post-award contract.
- c. A notice of award does not constitute an authorization for shipment of equipment or supplies or a directive to proceed with services. Before providing equipment, supplies and/or services, the Contractor must receive a properly authorized purchase order and/or notice to proceed.

Standard Bid/Proposal Provisions, General Terms and Conditions and Special Terms and Conditions

- d. The contract expresses the complete agreement of the parties and performance shall be governed solely by the specifications and requirements contained therein. Any change, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of the Contractor and the duly authorized representative of the MHTC, by a modified purchase order prior to the effective date of such modification. The Contractor expressly and explicitly understands and agrees that no other method and/or no other document, including correspondence, acts, and oral communications by or from any person, shall be used or construed as an amendment or modification.

Subcontracting

- a. It is specifically understood that no portion of the material or any interest in the contract, shall be subcontracted, transferred, assigned or otherwise disposed of, except with the written consent of MoDOT. Request for permission to subcontract or otherwise dispose of any part of the work shall be in writing to MoDOT and accompanied by documentation showing that the organization which will perform the work is particularly experienced and equipped for such work.
- b. Consent to subcontract or otherwise dispose of any portion of the work shall not be construed to relieve the Contractor of any responsibility for the production and delivery of the contracted work and the completion of the work within the specified time.
- c. All payments for work performed by a subcontractor shall be made to the Contractor to whom the contract was awarded and the purchase order issued.

Invoicing and Payment

- a. MoDOT is exempt from paying Missouri Sales Tax, Missouri Use Tax and Federal Excise Tax. However, the Contractor may themselves be responsible for the payment of taxes on materials they purchase to fulfill the contract. A Project Tax Exemption Certificate will be furnished to the successful Bidder/Offeror upon request if applicable.
- b. Each invoice should be itemized in accordance with items listed on the purchase order and/or contract. The statewide financial management system has been designed to capture certain receipt and payment information. Therefore, each invoice submitted must reference the purchase order number and must be itemized in accordance with items listed on the purchase order. Failure to comply with this requirement may delay processing of invoices for payment.
- c. Unless otherwise provided for in the solicitation documents, payment for all equipment, supplies, and/or services required herein shall be made in arrears. The Missouri Highways and Transportation Commission (MHTC) shall not make any advance deposits.
- d. The MHTC assumes no obligation for equipment, supplies, and/or services shipped or provided in excess of the quantity ordered. Any authorized quantity is subject to the MHTC's rejection and shall be returned at the Contractor's expense.
- e. The MHTC reserves the right to purchase goods and services using the state-purchasing card.

Applicable Laws and Regulations

- a. The contract shall be construed according to the laws of the State of Missouri. The Contractor shall comply with all local, state, and federal laws and regulations related to the performance of the contract.
- b. The Contractor must be registered and maintain good standing with the Secretary of State of the State of Missouri and other regulatory agencies, as may be required by law or regulations. Prior to the issuance of a purchase order and/or notice to proceed, the Contractor may be required to submit to MoDOT a copy of their current Authority Certificate from the Secretary of State of the State of Missouri.
 - 1) Prior to the issuance of a purchase order and/or notice to proceed, all **out-of-state** Contractors **providing services** within the state of Missouri must submit to MoDOT a copy of their current Transient Employer Certificate from the Department of Revenue, in addition to a copy of their current Authority Certificate from the Secretary of State of the State of Missouri.
- c. The exclusive venue for any legal proceeding relating to or arising, out of the contract shall be in the Circuit Court of Cole County, Missouri.

Executive Order

- a. The Contractor shall comply with all the provisions of Executive Order 07-13, issued by the Honorable Matt Blunt, Governor of Missouri, on the sixth (6th) day of March, 2007. This Executive Order, which promulgates the State of Missouri's position to not tolerate persons who contract with the state engaging in or supporting illegal activities of employing individuals who are not eligible to work in the United States, is incorporated herein by reference and made a part of this Agreement.
 - 1) "By signing this Agreement, the Contractor hereby certifies that any employee of the Contractor assigned to perform services under the contract is eligible and authorized to work in the United States in compliance with federal law."
 - 2) In the event the Contractor fails to comply with the provisions of the Executive Order 07-13, or in the event the Commission has reasonable cause to believe that the contractor has knowingly employed individuals who are not eligible to work in the United States in violation of federal law, the Commission reserves the right to impose such contract sanctions as it may determine to be appropriate, including but not limited to contract cancellation, termination or suspension in whole or in part or both.
 - 3) The Contractor shall include the provisions of this paragraph in every subcontract. The Contractor shall take such action with respect to any subcontract as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Missouri Highways and Transportation Commission
Standard Bid/Proposal Provisions, General Terms and Conditions and Special Terms and Conditions

Preferences

- a. In the evaluation of bids/quotes/proposals, preferences shall be applied in accordance with Chapter 34 RSMo. Contractors should apply the same preferences in selecting subcontractors.
- b. By virtue of statutory authority, RSMo. 34.076 and 34.350 to 34.359, a preference will be given to materials, products, supplies, provisions and all other articles produced, manufactured, made or grown within the State of Missouri. Such preference shall be given when quality is equal or better and delivered price is the same or less.
 - 1) If attached, the document entitled **"PREFERENCE IN PURCHASING PRODUCTS"** should be completed and returned with the solicitation documents.
 - 2) If attached, the document entitled **"MISSOURI DOMESTIC PRODUCTS PROCUREMENT ACT"** should be completed and returned with the solicitation documents. **Applies if bid is Twenty-Five Thousand Dollars (\$25,000.00) or more.**
- c. By virtue of statutory authority, RSMo 34.074, a preference will be given all contracts for the performance of any job or service to service-disabled veteran business either doing business as Missouri firms, corporations, or individuals; or which maintain Missouri offices or places of business, when the quality of performance promised is equal or better and the price quoted is the same or less or whenever competing bids, in their entirety, are comparable.
 - 1) If attached, the document entitled **"MISSOURI SERVICE-DISABLED VETERAN PREFERENCE"** should be completed and returned with the solicitation documents.
- d. In the event of a tie of low bids, the MHTC reserves the right to establish the method to be used in determining the award

Remedies and Rights

- a. No provision in the contract shall be construed, expressly or implied, as a waiver by the MHTC of any existing or future right and/or remedy available by law in the event of any claim by the MHTC of the Contractor's default or breach of contract.
- b. The Contractor agrees and understands that the contract shall constitute an assignment by the Contractor to the MHTC of all rights, title and interest in and to all causes of action that the Contractor may have under the antitrust laws of the United States or State of Missouri for which causes of action have accrued or will accrue as the result of or in relation to the particular equipment, supplies, and/or services purchased or produced by the Contractor in the fulfillment of the contract with the MHTC.
- c. In the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request MoDOT to enter into such litigation to protect the interests of the MHTC, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Cancellation of Contract

- a. The MHTC may cancel the contract at any time for a material breach of contractual obligations or for convenience by providing the Contractor with written notice of cancellation. Should the MHTC exercise its right to cancel the contract for such reasons, cancellation will become effective upon the date specified in the notice of cancellation sent to the Contractor.
- b. If the MHTC cancels the contract for breach, the MHTC reserves the right to obtain the equipment, supplies, and/or services to be provided pursuant to the contract from other sources and upon such terms and in such manner as the MHTC deems appropriate and charge the Contractor for any additional costs incurred thereby.

Bankruptcy or Insolvency

- a. Upon filing for any bankruptcy or insolvency proceeding by or against the Contractor, whether voluntary or involuntary, or upon the appointment of a receiver, trustee, or assigned the benefit or creditors, the Contractor must notify MoDOT immediately. Upon learning of any such actions, the MHTC reserves the right, at its sole discretion, to either cancel the contract or affirm the contract and hold the Contractor responsible for damages.

Inventions, Patents, and Copyrights

- a. The Contractor shall defend, protect, and hold harmless the MHTC, its officers, agents, and employees against all suits of law or in equity resulting from patent and copyright infringement concerning the Contractor's performance or products produced under the terms of the contract.

Inspection and Acceptance

- a. No equipment, supplies, and/or services received by MoDOT pursuant to a contract shall be deemed accepted until MoDOT has had reasonable opportunity to inspect said equipment, supplies, and/or services.
- b. All equipment, supplies, and/or services which do not comply with the specifications and/or requirements or which are otherwise unacceptable or defective may be rejected. In addition, all equipment, supplies, and/or services which are discovered to be defective or which do not conform to any warranty of the Contractor upon inspection (or at any later time if the defects contained were not reasonably ascertainable upon the initial inspection) may be rejected.
- c. The MHTC reserves the right to return any such rejected shipment at the Contractor's expense for full credit or replacement and to specify a reasonable date by which replacements must be received.

Standard Bid/Proposal Provisions, General Terms and Conditions and Special Terms and Conditions

- d. The MHTC's right to reject any unacceptable equipment, supplies, and/or services shall not exclude any other legal, equitable or contractual remedies the MHTC may have.

Warranty

- a. The Contractor expressly warrants that all equipment, supplies, and/or services provided shall: (1) conform to each and every specification, drawing, sample or other description which was furnished to or adopted by MoDOT, (2) be fit and sufficient for the purpose expressed in the solicitation documents, (3) be merchantable, (4) be of good materials and workmanship, and (5) be free from defect.
- b. Such warranty shall survive delivery and shall not be deemed waived either by reason of the MHTC's acceptance of or payment for said equipment, supplies, and/or services.

Status of Independent Contractor

- a. The Contractor represents itself to be an independent Contractor offering such services to the general public and shall not represent itself or its employees to be an employee of the MHTC. Therefore, the Contractor shall assume all legal and financial responsibility for taxes, FICA, employee fringe benefits, workers' compensation, employee insurance, minimum wage requirements, overtime, etc., and agrees to indemnify, save and hold the MHTC, its officers, agents and employees harmless from and against any and all losses (including attorney fees) and damage of any kind related to such matters.

Indemnification

- a. The Offeror shall defend, indemnify and hold harmless the Commission, including its members and department employees, from any claim or liability whether based on a claim for damages to real or personal property or to a person for any matter relating to or arising out of the Offeror's performance of its obligations under this Agreement.

APPENDIX A

1092.1 Signal Heads. Signal heads shall meet the following requirements:

(a) All signal heads shall be weatherproof and black in color in accordance with [Sec 1092.1.1](#). All indications shall be 12 inches (300 mm) unless specified otherwise.

(b) All signal indications in conventional signal heads shall be illuminated with LED modules. All LED circular modules shall be in accordance with ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement dated Jun 27, 2005, shall be Intertek ETL verified and shall be in accordance with the following:

(1) The lens of each green indication shall be clear.

(2) The LED modules shall not contain Aluminum Gallium Arsenide (AlGaAs).

(3) The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or shall be set on a non-dimming operation.

(4) Module shall be labeled with “Manufactured in conformance with the ITE LED Circular Signal Supplement”.

(5) Provided with spade adapters.

(c) All yellow and green arrow LED modules shall be in accordance with ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement dated July 1, 2007, shall be Intertek ETL verified and shall be in accordance with the following.

(1) Be omni-directional

(2) The lens of each green arrow indication shall be clear.

(3) Provided with spade adapters.

APPENDIX A

1092.1.1 Housing, Door and Visor. All new signal sections shall be clean, smooth and free from imperfections. The connection between signal housings shall be weatherproof. Housings shall be rigidly fastened together by a three- or four-bolt assembly or other connectors approved by the engineer. Doors that will exclude dust and moisture shall be used to ensure a weatherproof unit. A tunnel visor shall be supplied with each signal section and each door shall have provisions for attachment of the tunnel visor. All visors shall be held in place by four stainless steel fastening screws or bolts and shall be capable of being removed without opening the signal head door. Internal bosses or inserts shall be provided in each housing for mounting a terminal block and for the attachment of back plates. The top and bottom exterior of the housing shall be flat to ensure perfect alignment of assembled sections. The housing of each section shall be one piece with sides, back, top and bottom integrally molded. The design of the housing shall be such that, with the aid of simple tools and the addition of standard parts, it shall be possible to make any assembly consisting of one or more signal sections and, with the addition of standard bracket assemblies, assemble signal faces into multi-way traffic signal head configurations. The housings shall be polycarbonate. All material used in construction of polycarbonate signal heads shall be of ultraviolet stabilized color-impregnated polycarbonate resin. The housing shall have a minimum thickness of 0.09 inch (2.2 mm) and shall be ribbed or plated to produce added strength. If signal housings are not ribbed, minimum 0.10-inch (2.5 mm) aluminum plates shall be furnished and installed inside and outside the section housing at all points of attachment of the pipe bracket.

1092.1.2 Louvers. The degree of cut-off shall be stamped on the louver or printed on a decal on the front of the louver and shall be visible after installation.

1092.1.2.1 Fixed louvers shall be formed of 0.025-inch (0.6 mm) sheet aluminum. The top and bottom bends of each fin shall be securely fastened to the inside of the supporting ring. The angles of cut-off from either side of the center axis of the light beam shall be provided by six types of louvers: Type A - 3 degrees, Type B - 7 degrees, Type C - 10 1/2 degrees, Type D - 14 degrees, Type E - 18 1/2 degrees and Type F - 26 1/2 degrees.

1092.1.2.2 Adjustable louver units shall be composed of an acrylonitrile butadiene styrene (ABS) plastic housing and polycarbonate baffles. The unit shall be designed to prevent light leakage between the housing and the visor, and shall have an adjustable view range of 7 to 42 degrees. All plastic material shall be ultraviolet stabilized. All hardware shall be brass or stainless steel.

APPENDIX A

1092.1.3 Hardware. Hardware shall be 1 1/2-inch (38 mm) galvanized steel or unfinished aluminum, except aluminum pipe brackets and side mount brackets. Aluminum pipe brackets shall have a spun finish. Side mount brackets may be constructed of molded, glass-impregnated polycarbonate no greater than 12 inches (300 mm) in length. Elbows, tees and crosses shall be straight threaded and furnished with a square head set screw at each connection point to ensure rigid mounting. Fittings attached to the signal housing shall incorporate serrations or, by the use of an adapter ring, shall be compatible with the serrations on the signal housing.

1092.1.4 Backplates. Backplates shall be provided on all signal heads as shown on the plans. Backplates shall be black in color and constructed of flat pre-cut or preformed thermoplastic. Flat pre-cut thermoplastic backplates shall have a minimum thickness of 0.250 inch (6 mm). Preformed thermoplastic backplates shall have rolled out edges and a minimum final thickness of 0.10 inch (2.5 mm).

1092.1.5 Optically Limiting Signal Heads. All signal sections shall meet the following:

(a) Each signal housing shall be die cast aluminum having a chromate preparatory treatment. The signal housing and lens holder shall be predrilled for backplates and visors. All access openings shall be sealed with weather resistant gaskets. Hinge and latch pins shall be non-ferrous metal or stainless steel. The lens holder and interior of the housing shall be optical black. The housing shall mount to standard 1 1/2-inch (38 mm) fittings as a single section, as a multiple section face or in combination with conventional signals. The signal housing shall be provided with an adjustable connection that permits incremental tilting from zero to 10 degrees above or below the horizontal while maintaining a common vertical axis through the mounting assembly. The housing connection shall permit external adjustment about the mounting axis in 5-degree increments. Attachments such as visors, backplates or adapters shall readily fasten to mounting surfaces without affecting the weatherproof characteristics and light integrity of the signal.

(b) The optical system shall consist of an objective lens, optical limiter-diffuser, lamp, lamp fixture and optical masking tape.

(1) The objective lens shall be a high-resolution planar incremental lens, hermetically sealed within a flat laminate of weather-resistant acrylic or approved equivalent. The lens shall be symmetrical in outline and if rotated to any 90-degree orientation about the optical axis, shall not displace the primary image.

APPENDIX A

(2) The optical limiter-diffuser shall provide an accessible imaging surface at focus on the optical axis for objects up to 1200 feet (365 m) distant and shall permit an effective veiling mask to be applied as determined by the desired visibility zone. The optical limiter-diffuser shall be provided with positive positioning and shall be composed of heat resistant glass.

(3) The lamp shall be in accordance with [Sec 1092.1](#), and shall have an integral reflector. The lamp shall be attached to the diffusing element with a collar having a specular inner surface.

(4) The lamp fixture shall consist of a separately accessible housing and integral lamp support, an adjustable ceramic socket and a self-aligning, quick release lamp retainer. Electrical connection between section housing and lamp housing shall be accomplished with an interlock assembly that disconnects the lamp holder when the door is opened.

(5) A signal lamp intensity control shall be supplied in each signal section to provide dimming of the signal lamp as the ambient light intensity drops below approximately 3 footcandles (32 lux).

1092.1.6 Pedestrian Signal Heads. Pedestrian signal heads shall be in accordance with ITE specifications and standards for Pedestrian Traffic Control Signal Indications, adopted March 1985 and the following:

(a) Pedestrian signal head housings shall be constructed of a black, one-piece, 0.250-inch (6 mm) thick, polycarbonate material as shown on the plans. The housing shall include an integral mounting bracket designed for mounting on the side of the pole and on all makes of signal poles with a terminal compartment and minimum 5-position, double-row terminal block.

(b) The door, lens and any openings in the housing shall have gaskets or seals to exclude dust and moisture from the inside of the compartment.

(c) Lenses shall be constructed of polycarbonate material and reduce glare.

(d) Pedestrian signal head units shall be provided with a manufactured, preformed rectangular visor or screen-type louver.

APPENDIX A

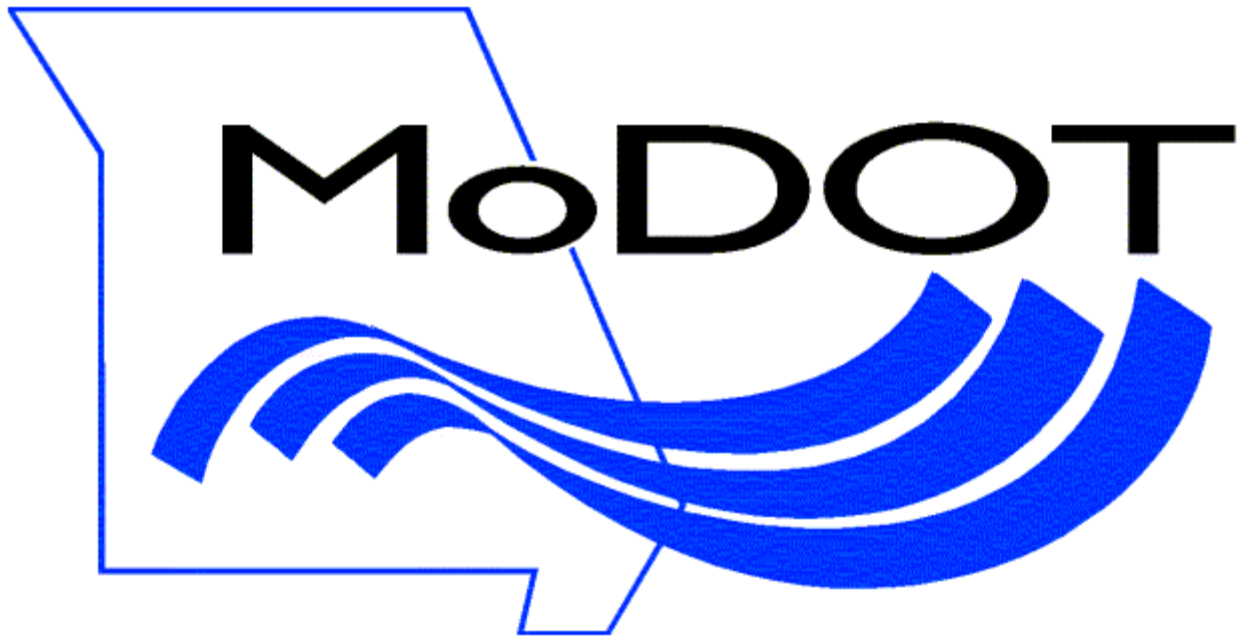
(e) All plastic material shall be ultraviolet stabilized.

(f) Indications shall be ITE Class 3 symbol messages. The "UPRAISED HAND" symbol shall be illuminated with a filled, Portland Orange LED module. The "WALKING PERSON" symbol shall be illuminated with a filled, White LED module. The LED modules shall be in accordance with ITE Pedestrian Traffic Control Signal Indications – Part 2: Light Emitting Diode (LED), Pedestrian Traffic Signal Modules, adopted March 19, 2004, shall be Intertek ETL verified and be in accordance with the following:

- (i) The lens shall use transparent film or materials with similar characteristics
- (ii) Modules, conforming to this specification, shall be labeled with the following statement, “Manufactured in Conformance with the Pedestrian Traffic Control Signal Indications – Part 2: Light Emitting Diode (LED) Pedestrian Signal Modules”.
- (iii) Modules with dimming capabilities shall have the option disabled or shall be set on a non-dimming operation.
- (iv) Supplied with spade adapters.

(g) Pedestrian traffic control signal faces shall be constructed such that both messages are displayed from the same message-bearing surface and rectangular in shape. The "WALKING PERSON" symbol shall be located to the right of the "UPRAISED HAND" symbol. The illumination of one message shall not result in the illumination of the other message.

1092.1.7 Finish. Mounting brackets and hardware, except the aluminum pipe brackets and polycarbonate side mounted brackets, shall be galvanized steel or unfinished aluminum. Aluminum pipe brackets shall have a spun finish. Painting of the mounting brackets and hardware will not be permitted.



Traffic Operations

APPROVED PRODUCTS LIST

**TRAFFIC SIGNALS, HIGHWAY LIGHTING,
AND HIGHWAY SIGNING EQUIPMENT**

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

TRAFFIC SIGNALS AND HIGHWAY LIGHTING EQUIPMENT

I. GENERAL

This Approved Products List (APL) is based on equipment meeting department specifications and being tested for the specified test period with satisfactory performance. All models shall conform to the latest revision of the Missouri Standard Specifications for Highway Construction unless otherwise indicated. The models indicated on the list are approved, but are subject to final field inspection before acceptance.

The department frequently tests new products and equipment for traffic signals and highway lighting. These new products may be installed on a construction project, purchased on parts orders or with controller orders. Vendors may also submit items, at no cost to the department, for the test period. Only a limited number of units will be accepted for test statewide until an item is added to the Approved Products List. A vendor wishing to initiate a test on a new product shall submit a Product Evaluation Request Form - Signal and Lighting Equipment. Copies of this form can be obtained from our website at www.modot.state.mo.us or contact MoDOT Traffic Operations. Minor model changes do not require an evaluation period, although the vendor shall submit specification sheets and a sample of the product for the Department to inspect.

All equipment evaluations are coordinated through MoDOT Traffic Operations. The vendor supplying the equipment shall provide equipment specifications and a certification that the equipment meets department specifications before the test is performed. The equipment is tested for the period specified on the APL. Products that are not performing satisfactorily will be replaced with an approved product if the vendor cannot provide timely correction of the problem or if unsatisfactory operation of the intersection results.

If a vendor is proposing a product that does not meet department specifications, an explanation of why the product meets or exceeds the current specifications must be provided by the vendor in writing to Traffic Operations. If approved, the product may be tested for the specified period as described above. If the product is satisfactory, the Department will consider a revision to the applicable specifications. Products will not be added to the Approved Products List that do not meet department specifications.

Products on the APL shall continue to perform satisfactorily. In addition, the vendors shall support the products. Products not performing as required or not supported are subject to removal from the APL.

Grounds for removal of products include but are not limited to:

- Significant change in product specifications or design without notification to the department.

- Failure to correct or replace products that are defective in manufacturing or workmanship.

- Repeated patterns of malfunctions of a product not adequately corrected by the vendor.

- Unreasonable pricing of repair parts or repair work. Repair work not completed in a reasonable time frame.

- Excessive delivery times for new purchases or replacement parts.

Changes in standard specifications may also necessitate removal of specific products from the APL. If this occurs, there will be a grace period where the product will be retained on the list after the specifications are changed. However the product will be removed from the list if it is not revised to meet specifications.

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

II. TRAFFIC SIGNAL EQUIPMENT

All traffic signal equipment requires a one-year evaluation period.

CONTROLLERS

NEMA TS1 CONTROLLERS

MODEL

Econolite	ASC/2-2100
Econolite	ASC/2S-2100
Econolite	ASC/3-2100
Naztec	980
Peek	3000
Siemens	EPAC Genesis M40
Siemens	EPAC M42
Siemens	EPAC M52
Traffic Control Technologies (TCT)	LMD-8000

NEMA ON-STREET MASTER CONTROLLER

MODEL

Econolite	KMC-10,000
Econolite	ASC/2M
Siemens	MARC 360

SOLID STATE PRETIMED CONTROLLERS (ALL TYPES)

MODEL

Siemens	EPIC Series
Traffic Control Technologies (TCT)	LMD 40 Series

170 CONTROLLERS

MODEL

McCain	170E
Phillips/Sisson Industries, Inc.	170E
Safetran	170E
Siemens	170E

CABINETS AND BACK PANELS (NEMA & S.S. PRETIMED)

NOTE: Cabinets and Back panels that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.

NEMA CABINET AND BACK PANEL ASSEMBLIES

Control Technology
Econolite
Henke/Bison
IDC/Gibbons
Naztec P-44
Siemens

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

SOLID STATE PRETIMED CABINET AND BACK PANEL ASSEMBLIES

Siemens

CABINETS AND RACKS (TYPE 170 CONTROLLERS)

NOTE: Cabinets and Racks that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.

332 AND 336S CABINET AND RACK ASSEMBLIES

McCain
Phillips/Sisson Industries, Inc.
Safetran

CONFLICT MONITORS

NEMA CONFLICT MONITORS

MODEL

Eberle Design Incorporated (EDI).....	NSM-6
Eberle Design Incorporated (EDI).....	NSM-12
Eberle Design Incorporated (EDI).....	SSM-12LE
Eberle Design Incorporated (EDI).....	MMU-16E
Eberle Design Incorporated (EDI).....	MMU-16LE
Naztec, Incorporated	NM512
Peek/Transyt.....	1200
Power Distribution & Control (PDC).....	CM82-03
Power Distribution & Control (PDC).....	CM82-06
Power Distribution & Control (PDC).....	CM82-12
Reno A&E	MMU-1600 Series
Solid State Devices.....	NM-6
Solid State Devices.....	NM-12
Solid State Devices.....	LCD-6P
Solid State Devices.....	LCD-12P
Traffic Control Technologies (TCT)	LNM Series

170 CONFLICT MONITORS

MODEL

Eberle Design Incorporated (EDI).....	210E
Reno A & E	2018
Solid State Devices.....	210P

CABINET ACCESSORIES

AUXILIARY TIME CLOCK

MODEL

Eltec.....	NTC-17E
Eltec.....	TC-14
RTC.....	AP41

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

EXTERNAL T.B.C. COORDINATORS MODEL

EltecTC-14

FLASHERS MODEL (NEMA & 170)

Eberle Design Incorporated (EDI)810
 Power Distribution & Control (PDC)SSF-86
 Power Distribution & Control (PDC)SSF-88
 Reno A & EFL-200
 Traffic Sensor Corp204
 Traffic Sensor Corp204-15
 Traffic Sensor Corp304
 Traffic Sensor Corp304-15

FLASH TRANSFER RELAYS MODEL

AMECO136-4962
 Struthers-Dunn21ACPX-2/21ACPXD-5
 Mid-Tex136-62T-3A1
 Power Distribution & Control (PDC)FTR 91
 RenoTR-200

LOAD SWITCHES MODEL (NEMA & 170)

Eberle Design Incorporated (EDI)510
 Power Distribution & Control (PDC)SSS-86
 Power Distribution & Control (PDC)SSS-88
 Reno A & ELS-200
 Traffic Control Technologies (TCT)SSS-86
 Traffic Sensor Corp200
 Traffic Sensor Corp200-15
 Traffic Sensor Corp300
 Traffic Sensor Corp300-15

ISOLATORS (170 only) MODEL (242=DC, 252=AC)

GDI242
 GDI252
 Power Distribution & Control (PDC)242
 Power Distribution & Control (PDC)252
 Safetran242
 Safetran252

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

SURGE PROTECTORS**MODEL**

Edco.....	SHA 1210
Edco.....	SHA-1250

TONE RECEIVERS**MODEL**

Iniven	IR30M-05-30
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TONE TRANSMITTERS**MODEL**

Iniven	IT30
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DETECTORS**MICROWAVE DETECTORS****MODEL**

Microwave Sensors.....	TC-26B
Electronic Integrated Systems, Inc. (EIS)	RTMS X-2

MICROLOOP, PROBE**MODEL**

3M	Canoga 701
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PEDESTRIAN PUSH BUTTONS**MODEL**

Campbell.....	4 EVR 120
Polara Engineering, Inc.	BDSP-003-B Bulldog

POWER SUPPLY FOR CARD RACK DETECTORS - NEMA**MODEL**

ICC.....	PS24
PGK	PS-1.2

SINGLE CHANNEL SHELF MOUNT DETECTORS, STANDARD**MODEL**

Eberle Design Incorporated (EDI).....	LMD301S
Sarasota.....	535B/MS

SINGLE CHANNEL SHELF MOUNT DETECTORS, TIME DELAY**MODEL**

Eberle Design Incorporated (EDI).....	LMD301T
Sarasota.....	535T/MS

ULTRASONIC DETECTORS**MODEL**

Microwave Sensors.....	TC-30
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MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

2-CHANNEL CARD RACK COUNTING DETECTORS, DUAL OUTPUT

Eberle Design Incorporated (EDI).....LMD632

2-CHANNEL CARD RACK COUNTING DETECTORS, SINGLE OUTPUT PULSE MODE (NEMA)

MODEL

Eberle Design Incorporated (EDI).....LMD632T
ICC.....S27B
Reno A & EC

2-CHANNEL CARD RACK DETECTORS, STANDARD (170)

MODEL

Eberle Design Incorporated (EDI).....LM222
Eberle Design Incorporated (EDI).....LMD222
Reno A & E222
Sarasota.....222-GP5
Sarasota.....222 GP6

2-CHANNEL CARD RACK DETECTORS, STANDARD (NEMA)

MODEL

Eberle Design Incorporated (EDI).....LMD602R
ICC.....S27B
Reno A & EC
Reno A & EG

2-CHANNEL CARD RACK DETECTORS, TIME DELAY (NEMA)

MODEL

3M.....Canoga C800 Series
Eberle Design Incorporated (EDI).....LMD602TR
Reno A & EC
Reno A & EGT

SIGNAL HEADS

BACKPLATES

MODEL

Chapel Hill44xx Series
IntelightBP INTLIT Series
Pelco.....BK-100x Series
Neodesia PlasticsBP Series

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

HARDWARE

NOTE: Hardware that meets MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide equipment that meets specifications and complete a satisfactory six-month evaluation as described above to be added to the list.

Pelco	
Reliable 3/8" Strandvise	5202
Reliable 1/4" Strandvise	5200

LOUVERS MODEL

Pelco	GPL
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POLYCARBONATE SIDE-MOUNT BRACKETS MODEL

WITH RELATED HARDWARE

Component Products	Any
Eagle	UKS1452AB

SIGNAL HEADS - OPTICALLY LIMITED MODEL

Intelight, Inc.	ESB Series
McCain	HPTS Series

SIGNAL HEADS - POLY CONVENTIONAL MODEL

Chapel Hill	SIG-TPB-305-CTN-NVN-0N (3 section)
Chapel Hill	SIG-TPB-586-CTN-NVN-0N (5 section)
Eagle	SA Series
General Traffic Equipment Corp.....	T-30 POLY
IDC/Safetrans	LT Series
McCain	MTSTP Series
Traffic Control Technologies (TCT).....	PSS Series

PEDESTRIAN HEAD – POLY 1-SECTION MODEL

McCain	M32258
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PEDESTRIAN LED SIGNAL INDICATION MODEL

Pedestrian LED signal indications must be ETL verified. The ETL verified listing is located at [Intertek ETL Verified Listing - Link](#)

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

POSTS AND MAST ARMS

Note: Posts and Mast Arms do not require an evaluation period. Posts and Mast Arms shall be fabricated in accordance with MoDOT specifications and standards. Posts and Mast Arms shall be pre-approved as required by the MoDOT standards and specifications to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Posts and Mast Arms are subject to field inspection before acceptance.

STEEL POSTS AND MAST ARMS

DRAWING NUMBER

Ameron International	MO9811 - Rev. 9 (Type C)
Ameron International	MO9812 - Rev. 10 (Type CL)
JEM Engineering & Manufacturing.....	MODOT1-4 Rev. 2 (Types C, CL, B & BL)
Maico Industries, Inc.	MOMAST 1-5A Rev. 1-6 (Types C, CL, B & BL)
Millerbernd Manufacturing Company	780C388 (Type B)
Millerbernd Manufacturing Company	780C389 (Type BL)
Millerbernd Manufacturing Company	780C49 (Type C)
Millerbernd Manufacturing Company	780C51 (Type CL)
Millerbernd Manufacturing Company	500A971
Pelco Structural, LLC	MODMA1001 & 1002 (Type B)
Pelco Structural, LLC	MODMAL1001 & 1002 (Type BL)
Pelco Structural, LLC	MOSMA1001 & 1002 (Type C)
Pelco Structural, LLC	MOSMAL1001 & 1002 (Type CL)
Union Metals.....	30443-B202 - Rev. 19 (Types C, CL, B & BL)
Valmont	DB00408 - Rev. C (Types C, CL, B & BL)

MISCELLANEOUS

LOOP SEALANTS

MODEL

(Loop sealants do not require material certification)

3M.....	5000
Bondo	560
Bondo	575
Bondo	P606
Chemque	290S
Chemque	296-06
Durant Paints.....	Stat-A-Flex Polyseal
RAI Products	Pro-Seal 6006

PEDESTAL BASES

MODEL

Akron Foundry	TS-1000-L-P
Akron Foundry	TS-1000-L-WP
Component Products.....	CPI-BAS-1
Pelco.....	PB5336
Pelco.....	PB5337
Pelco.....	PB5340
Pelco.....	PB5341
Traffic Parts	TP 289 X

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

SPLICE KITS (DETECTOR LEAD-IN)

MODEL

3M.....	DBY Series
HOMAC HMC Industries	RAB 1/0 Series

METER SERVICE PEDESTAL (SIGNALS/SIGNALS & LIGHTING) *MODEL*

Milbank 120V Signal Only	CP3B51C1PAAOMO1
Milbank 120V Signal with 2 –Circuit 240V Lighting.....	CP3B51C1PBAOMO2
Milbank 120V Signal with 2-Circuit 240V Lighting Dual Meter.....	CP3B62C2NBAOMO1
Myers 120V Signal with 2-Circuit 240V Lighting	MEUGLA-M100-MDOT
Myers 120V Signal with 2-Circuit 240V Lighting	MEUG 20
Pacific Utility Products 120V Signal Only.....	USP16-M2100-112C-MODOT6-TS
Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting	USPA-100-100-MODOT
Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting	USP16-M2100-112C-MODOT
Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting	USP24-M2100-100-MODOT6-TSL
Pacific Utility Products 120V Sgnl w/2-Circuit 240V Lighting Dual Mtr	USPD-2M2100-100-MODOT6
Tesco 120V Signal with 2-Circuit 240V Lighting	28-105 Type III BF
Tesco 120V Signal with 2-Circuit 240V Lighting	28-102F

LIGHT EMITTING DIODES (LED)

LED's (circular and arrow) must be ETL verified. The ETL verified listing is located at [Intertek ETL Verified Listing - Link](#)

PROGRAMMABLE VIEW

MODEL

Dialight.....	P463R33003 (Red Ball)
Dialight.....	P463Y33003 (Yellow Ball)
Dialight.....	P463G33003 (Green Ball)
GELcore	DR3-RCFB-01A (Red Ball)
GELcore	DR3-YCFB-01A (Yellow Ball)
GELcore	DR3-GCFB-01A (Green Ball)

VIDEO DETECTION SYSTEMS

VIDEO DETECTOR

MODEL

Econolite.....	Autoscope 2020
Econolite.....	Autoscope RackVision
Econolite.....	Autoscope RackVision Terra
Econolite.....	Autoscope Solo Terra
Iteris.....	Vantage Edge2
Traficon.....	VIP 3D.1
Traficon.....	VIP 3D.2

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

III. HIGHWAY LIGHTING

All highway lighting equipment require a one-year evaluation period except for items noted requiring a six-month evaluation.

LIGHTING POLES

Note: Poles do not require an evaluation period. Poles shall be fabricated in accordance with MoDOT specifications and standards. They shall be pre-approved as required by the MoDOT standards and specifications in order to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Lighting poles are subject to field inspection before acceptance.

STEEL POLES

DRAWING NUMBER

Ameron International	MO98AT3 – Rev. 4 (Type AT45) Design 1 &2
Ameron International	MO98AT2 – Rev. 4 (Type AT45)Design 3, 4 & 5
Ameron International	MO98AT4 – Rev. 3 (Type AT30)
Ameron International	MO98B2 – Rev. 3 (Type B45 & MB45)
Ameron International	MO98B4 – Rev. 2 (Type B30)
JEM Engineering and Manufacturing	MO-AT30 – Rev. 3 (Type AT30)
JEM Engineering and Manufacturing	MO-AT45 – Rev. 3 (Type AT45)
Millerbernd Manufacturing Co.	730B907 (Type AT30)
Millerbernd Manufacturing Co.	730B653 (Type AT45)
Millerbernd Manufacturing Co.	730B908 (Type B30)
Millerbernd Manufacturing Co.	730B909 (Type B45)
Millerbernd Manufacturing Co.	730B910 (Type MB45)
Union Metals.....	71020-B2 - Rev. 5 (Type AT30)
Union Metals.....	71020-B3 - Rev. 4 (Type B30)
Union Metals.....	71019-B6 - Rev. 7 (Type AT45)
Union Metals.....	71019-B7 - Rev .4 (Types B45 & MB45)
Union Metals.....	71019-B8 – Rev. 3 (Type B30)
Union Metals.....	71019-B9 – Rev. 3 (Type B45)
Union Metals.....	71019-B10 – Rev. 3 (Type MB45)
Union Metals.....	71020-B103 – Rev. 3 (Type AT30)
Union Metals.....	71020-B104 – Rev. 4 (Type AT45)
Valmont	DB00019 – Rev. N (Types AT30 & B30)
Valmont	DB00020 – Rev. N (Types AT45, B45 & MB45)

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

FOUNDATIONS

Note: Screw anchor foundations do not require an evaluation period. Screw anchor foundations shall be fabricated in accordance with MoDOT specifications and standards. They shall be pre-approved as required by the MoDOT standards and specifications in order to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Screw anchor foundations are subject to field inspection before acceptance.

SCREW ANCHOR FOUNDATIONS

DRAWING NUMBER

Component Products, Inc.	SLSF 8-5 (Type AT30)
Component Products, Inc.	SLSF 10-7 (Type AT45)
Hubbell Chance	SA112-0696 – Rev. G (Type AT30)
Hubbell Chance	SA112-0786 – Rev. D (Type AT45)
Integrated Traffic Solutions, Inc.	ITS AT30 (Type AT30)
Integrated Traffic Solutions, Inc.	ITS AT45 (Type AT45)
J. H. Botts	JHB MOH 30 – Rev. C (Type AT30)
J. H. Botts	JHB MOH 45 – Rev. D (Type AT45)

LUMINAIRES

NOTE: Luminaires will not be furnished with photoelectric cells. Receptacles will have a shorting plug in place of cell. Multi-tap ballast for 120 Volt and 240 Volt fixtures is permissible.

BRACKET ARM MOUNT - 150 WATT

MODEL

American Electric Lighting	115 Series
American Electric Lighting	Durastar 2000, Series 30
Crouse-Hinds/Cooper	OVZ Series
Crouse-Hinds/Cooper	OVX Series
General Electric (GE)	M2RR Series
Holophane	Mongoose Series

BRACKET ARM MOUNT - 250 WATT

MODEL

American Electric Lighting	115 Series
American Electric Lighting	Durastar 2000, Series 30
Crouse-Hinds/Cooper	OVZ Series
Crouse-Hinds/Cooper	OVX Series
General Electric (GE)	MSRL Series
Holophane	Mongoose Series

BRACKET ARM MOUNT - 400 WATT

MODEL

American Electric Lighting	125 Series
American Electric Lighting	Durastar 2000, Series 30
Crouse-Hinds/Cooper	OVX Series
General Electric (GE)	MSRL Series
Holophane	Mongoose Series

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

HIGH MAST LIGHTING

MODEL

NOTE: *High mast lighting is custom designed for the location. Fixtures from the following manufacturer's series are considered pre-approved.*

Cooper	HMC Series
General Electric (GE)	HMA Series
Holophane	HMAO Series
Holophane	HMS Series
Metrolux	VA Series

POLE TOP MOUNTING

MODEL

Holophane	HL2A Series
Holophane	Mongoose Series

SIGN LIGHTING - 250 WATT

MODEL

General Electric (GE)	V2FN Series
Guth	B17632 Series
Holophane	PANL Series
Holophane	SNVW Series

SIGN LIGHTING - 400 WATT

MODEL

Holophane	PANL Series
Holophane	SNVW Series

UNDERPASS (WALLPACKS)

MODEL

American Electric Lighting	582 Series
Cooper	WPK Series
General Electric (GE)	WAL Series
Holophane	MDWP Series
Holophane	WL2K Series
Hubbell	PGM-150S Series

CONTROL EQUIPMENT

CONTACTORS-ELECTROMECHANICAL

MODEL

Square D	Type S
Westinghouse/Cutler-Hammer	A202 Series

CONTACTORS-MERCURY

MODEL

Dayton/Duracool	6A/6X Series
Magnecraft	WM Series

MISSOURI DEPARTMENT OF TRANSPORTATION

APPROVED PRODUCTS LIST

BASE MOUNTED CONTROL CABINETS

NOTE: Cabinets that meet MoDOT specifications from the following manufacturers will be accepted. All other manufacturers must provide a model that meets specifications and complete a satisfactory six-month evaluation as described above to be added to the list.

Cleveland Switchboard
Coxline
Hoffman
Shallbetter
Inland Technologies

LIGHTNING ARRESTER

MODEL

Delta	LA 600 Series
General Electric Tranquell	9L15ECB001

MOUNTING SOCKET FOR PHOTOELECTRIC CONTROL.....MODEL

NOTE: Mounting sockets require a six-month evaluation.

American Electric Lighting	PBC
Fischer-Pierce	S476-71
General Electric (GE)	MB-PECTL

PHOTOELECTRIC CONTROL

MODEL

Area Lighting Research	SST-120 (120 volt)
Area Lighting Research	SST-240 (240 volt)
Area Lighting Research	SST-PV (120/240 volt)
American Electric Lighting	D120-1.0-STJ (Dark to Light) (120 volt)
American Electric Lighting	D124-1.0-STJ (120/240 volt)
American Electric Lighting	D240-1.0-STJ (240 volt)
American Electric Lighting	DE480-1.0-TJ (480 volt)
Fischer-Pierce	FPN7790B (105 – 285 volt)
Fischer-Pierce	FPN7772 (195 – 305 volt)
Fischer-Pierce	FPN7794 (480 volt)
Fischer-Pierce	FPN7760 (120 volt)
General Electric (GE)	PEC01TL (>120v/< 305v w/ time delay)
General Electric (GE)	PEC1TL (120v)
General Electric (GE)	PEC5TL (480v)
ITT	SAT-15
Tyco	6190 VPS

TYPE A CIRCUIT BREAKERS

MODEL

Square D	FAL Series
Westinghouse/Cutler-Hammer	EHD Series (1-Pole)
Westinghouse/Cutler-Hammer	FDB Series (2-Pole)

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

MISCELLANEOUS

AVIATION LIGHTING MODEL

Hughey & Philips.....KG114

FUSED SLIP CONNECTORS MODEL

NOTE: Slip connectors require a six-month evaluation.

BussHEB-JWRYC

METER SERVICE PEDESTAL (LIGHTING) MODEL

Milbank 2-Circuit 240V LightingCP3B51C1PBAOMO3
 Milbank 4-Circuit 480V LightingCP3B51D1PBAOMO1
 Milbank 4-Circuit 480V Lighting (used for Ameren cold sequence)CP3B51D1PBAOMOCS1
 Pacific Utility Products 4-Circuit 240V Lighting.....USP24-M2100-100-MODOT6
 Pacific Utility Products 4-Circuit 480V Lighting.....USP16-M2100-112C-MODOT
 Pacific Utility Products 4-Circuit 480V Lighting.....USP24-M2100-100-MODOT6-480

NAVIGATION LIGHTING MODEL

Tideland.....ML-140 with TF-3AC Lamp Changer
 Automatic Power, Inc.....FA-143

SPLICE KITS MODEL

3M82A1 (Single)
 3M82A2 (Single)
 3M82B1 (Three Way)
 3M82B2 (Three Way)
 HOMAC HMC Industries.....RAB 1/0 Series

TRANSFORMER BASES MODEL

Akron FoundryTB1-17H (for AT30)
 Akron FoundryTB3-17H (for AT45)

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

IV. POWER SUPPLY EQUIPMENT AND PULL BOXES

All items require a six-month evaluation period.

MAIN SERVICE DISCONNECT ENCLOSURE WITH SAFETY SWITCH (NEMA 4)

MODEL

General Electric (GE)	TE 100 CS
Square D	FA-100-DS Series E2
Westinghouse	WFDN 100

PREFORMED PULL BOX-CLASS 1

MODEL

Straight

Armorcast Products Company	A6001640TAPCX22 (Box & Lid)
Carson Industries	H1730-24 (Box)
CDR	A14-1730 series-22" (Box & Lid)
Composite Industries	CI183024PB1P
Highline	PHA173024HO1R
.....	H1730-PI (Lid)
Martin Enterprises	173022PC
Strongwell/Quazite	PG1730B532 (Box)
	PG1730H511 (Lid)
	PG1730BA Series
Synertech	S1730B24AA (Box)
	S1730HBB0A (Lid)

Flared

Armorcast Products Company	A6001640TAX24 (Box & Lid)
CDR	A12-1730 series-22" (Box & Lid)
Highline	CHA173024HO1R
NewBasis	FCA173022CC4126-62 (Box & Lid)
NewBasis	FCA173022CC4749-61 (Box & Lid)
NewBasis	FCA173024CC40303 (Box & Lid)
Pencell Plastics	PEM-1830-PCX (Box & Lid)

PREFORMED PULL BOX-CLASS 2

MODEL

Straight

Armorcast Products Company	A6001974TAPCX26 (Box & Lid)
Armorcast Products Company	A6001974TAPCX24
Carson Industries	H2436-24 (Box)
.....	H2436-PI (Lid)
CDR	A14-2436 series-24" (Box & Lid)
Composite Industries	CI243624PB1P
Highline	PHA243624HO1R
Martin Enterprises	243624PC
Strongwell/Quazite	PG2436B539 (Box)
	PG2436H508 (Lid)
	PG2436BA Series
Synertech	S2436B26AA (Box)
	S2436HCB0A (Lid)

MISSOURI DEPARTMENT OF TRANSPORTATION

APPROVED PRODUCTS LIST

Flared

Armorcast Products Company	A6001974TAX26 (Box & Lid)
Armorcast Products Company	A6001974TAX24
CDR	A12-2436 series-24" (Box & Lid)
Highline	CHA243624HO1R
NewBasis	FCA243630CC4126-61 (Box & Lid)
NewBasis	FCA243630CC4749-61 (Box & Lid)
NewBasis	FCA243624CC40716 (Box & Lid)
Pencell Plastics	PEM-2436-36 (Box & Lid)
Pencell Plastics	PEM-2436-PCX-24 (Box & Lid)
Synertech	S2436B24AA (Box)
.....	S2436HCB0A (Lid)

PREFORMED PULL BOX-CLASS 3

MODEL

Straight

Armorcast Products Company	A6001430TAPCX36 (Box & Lid)
Carson Industries	H3048-36 (Box)
.....	H3048-P1 (Lid)
CDR	A14-3048 series-36" (Box & Lid)
Composite Industries	CI304836PB1P
Highline	PHA304836HO1R
Martin Enterprises	304836PC
Strongwell/Quazite	PG3048B560 (Box)
.....	PG3048H517 (Lid)
.....	PG3048BA Series
Synertech	S3048B36AA (Box)
.....	S3048HCB0A (Lid)

Flared

Armorcast Products Company	A6001550TAX36 (Box & Lid)
CDR	A12-3048-series 36" (Box & Lid)
Highline	CHA304836HO1R
NewBasis	FCA304836EE4749-61 (Box & Lid)
NewBasis	FCA304836EE40304 (Box & Lid)
Pencell Plastics	PEM-3048-36-PCX-SPLIT (Box & Lid)

PREFORMED PULL BOX-CLASS 5

MODEL

Flared

Armorcast Products Company	A6001466TA (Box & Lid)
Armorcast Products Company	A6000172TAX36 (Box & Lid)
CDR	A12-3200 series-36" (Box & Lid)
NewBasis	FCA320036T-90003
NewBasis	FCA540036C4800 (Box & Lid)
NewBasis	FCA540036C40336 (Box & Lid)
NewBasis	FCA540036-MODOT
Quazite	PR3944Z504

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

HIGHWAY SIGNING EQUIPMENT

V. GENERAL

This Approved Products List (APL) for highway signing equipment contains current pre-approved products for highway signing. This list is applicable to department purchases and construction contracts. The list includes products that have been approved for use based on satisfactory performance during a specified test period. Products listed have undergone sufficient field testing to be considered acceptable for use at any time. All field tests of new products or pending products should be arranged with Central Office Traffic.

The department frequently tests new products and equipment for highway signing. These new products may be installed on a construction project or used for normal department installations and maintenance. Vendors may also submit items, at no cost to the department, for the test period. Only a limited number of units will be accepted for test statewide until the product is added to the Approved Products List. A vendor wishing to initiate a test on a new product shall submit a Product Evaluation Request Form. Copies of this form can be obtained from our website at www.modot.state.mo.us or contact MoDOT Central Office Traffic. Minor model changes of previously approved products do not require a new evaluation period, although the vendor shall submit specification sheets and a sample of the product for the Department to inspect. Any modifications determined to potentially alter the performance of the product may require the product to undergo additional field testing and evaluation.

All product evaluations are coordinated through MoDOT Central Office Traffic. The vendor supplying the equipment shall provide equipment specifications and a certification that the equipment meets department specifications before the test is performed. The equipment is tested for the period specified by Central Office Traffic (typically one year). Products that are not performing satisfactorily will be left off of the list. Products that were previously approved that begin to perform unsatisfactorily will be removed or replaced with an approved product if the vendor cannot provide timely correction of the problem.

If a vendor is proposing a product that does not meet department specifications, an explanation of why the product meets or exceeds the current specifications must be provided by the vendor in writing to Central Office Traffic. If approved, the product may be tested for the specified period as described above. If the product is satisfactory, the Department will consider a revision to the applicable specifications. Products will not be added to the Approved Products List that does not meet department specifications.

Products on the APL shall continue to perform satisfactorily. In addition, the vendors shall support the products. Products not performing as required or not supported are subject to removal from the APL.

Grounds for removal of products include but are not limited to:

- Significant change in product specifications or design without notification to the department.
- Failure to correct or replace products that are defective in manufacturing or workmanship.
- Repeated patterns of malfunctions of a product not adequately corrected by the vendor.
- Unreasonable pricing of repair parts or repair work. Repair work not completed in a reasonable time frame.
- Excessive delivery times for new purchases or replacement parts.

Changes in standard specifications may also necessitate removal of specific products from the APL. If this occurs, there will be a grace period where the product will be retained on the list after the specifications are changed. However the product will eventually be removed from the list if it is not revised to meet specifications.

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

VI. HIGHWAY SIGNING EQUIPMENT

BREAKAWAY DEVICES

MANUFACTURER	DESCRIPTION, MODEL
Ultimate Highway Products	Triangular Slip Base for 2.5" PSST, Slip-Mate
Xcessories Squared	Kleen Break 425 for 2" PSST, XKB42520-G
Xcessories Squared.....	Redi-Torque 280 for 2.5" PSST, SB8C-250A-G
Northwest Pipe Company	S-Q 8" Square Slipbase for 2.5" PSST, 31209
Designovations, Inc.....	Snap n Safe S250 and S250 S

FOUNDATIONS/ANCHORS

MANUFACTURER	DESCRIPTION, MODEL
None	None

SIGN HARDWARE

MANUFACTURER	DESCRIPTION, MODEL
Xcessories Squared.....	Aluminum Post Clamp for 2.5" Pipe, XAPC278RD
Xcessories Squared.....	Aluminum Post Clamp for 3" Pipe, XAPC350RD
Xcessories Squared.....	Aluminum Post Clamp for 4" Pipe, XAPC450RD
Xcessories Squared.....	Aluminum Bar for Post Clamps, XAB750
Xcessories Squared.....	Aluminum Sign Backer Bar, ASB200P1
Xcessories Squared.....	Extruded Panel Clamp for 2" PSST, EPPCS200SQ
Xcessories Squared.....	Extruded Panel Clamp for 2.5" PSST, EPPCS250SQ
Xcessories Squared.....	Extruded Panel Clamp for 2.5" Pipe, EPPCS250RD
Xcessories Squared.....	Extruded Panel Clamp for 3" Pipe, EPPCS300RD
Xcessories Squared.....	Extruded Panel Clamp for 4" Pipe, EPPCS400RD
Xcessories Squared.....	Extruded Panel Clamp for 4x4 Wood, EPPCS44W
Xcessories Squared.....	Extruded Panel Clamp for 4x6 Wood, EPPCS46W
Xcessories Squared.....	Extruded Panel Clamp for 6x6 Wood, EPPCS66W
Xcessories Squared.....	Redi-Torque Bolt Kit, RTSB-MPHDW
Dent Breakaway Industries, Inc.	3/4" Dent Bolt, #6874
Dent Breakaway Industries, Inc.	5/8" Dent Bolt, #6874
Dent Breakaway Industries, Inc.	1/2" Dent Bolt, #6874

SIGNS

MANUFACTURER	DESCRIPTION, MODEL
Tapco	Blinkersigns

MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

REVISED:**PEDESTRIAN PUSH BUTTONS****MODEL**

Changed Polara Engineering, Inc.	BDSP-330-X Bulldog
To	
Polara Engineering, Inc.	BDSP-003-B Bulldog